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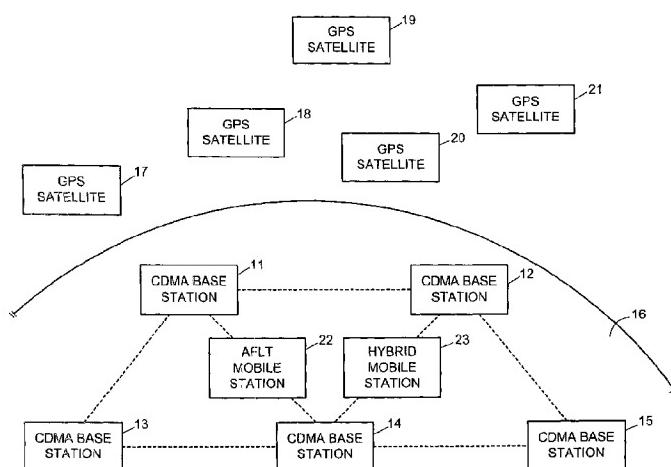
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(54) Title: USE OF MOBILE STATIONS FOR DETERMINATION OF BASE STATION LOCATION PARAMETERS IN A WIRELESS MOBILE COMMUNICATION SYSTEM



**WO 03/058985 A3**



(57) Abstract: In a wireless communication network, base station antenna positions and time offsets are stored in a base station almanac data base along with other information used for obtaining the most reliable mobile station position fixes under a variety of conditions. The system uses the position fixes of mobile stations and terrestrial ranging information to determine base station antenna positions and base station timing offsets. The base station antenna positions are determined during normal mobile station position determinations, in order to maintain and improve the antenna location data, and to correct for change or relocation of the base station antennas. It is possible to recover quickly from a loss of cell sector identity during relocation of a base station antenna, and to ensure accuracy of mobile station position determination based on ranging from the base stations, and rapid acquisition of position data from mobile stations having global satellite receivers.

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 02/40053

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G01S5/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, COMPENDEX, INSPEC, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 84862 A (ERICSSON TELEFON AB L M) 8 November 2001 (2001-11-08) abstract page 1 -page 4, line 20 page 6, line 4 -page 7, line 11 page 11, line 10 -page 12, line 11 claims 3-5 ----	1-25
A	US 6 166 685 A (SOLIMAN SAMIR S) 26 December 2000 (2000-12-26) abstract ----	2,20
A	US 6 230 018 B1 (WATTERS J MICHAEL ET AL) 8 May 2001 (2001-05-08) column 4, line 52 -column 5, line 13 ----	2,20 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel: (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Ó Donnabháin, C

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SAVARESE C ET AL: "Location in distributed ad-hoc wireless sensor networks" 2001 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING. PROCEEDINGS. (ICASSP). SALT LAKE CITY, UT, MAY 7 - 11, 2001, IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING (ICASSP), NEW YORK, NY: IEEE, US, vol. 4 OF 6, 7 May 2001 (2001-05-07), pages 2037-2040, XP002225743 ISBN: 0-7803-7041-4 abstract	1-25
E	WO 03 010552 A (KONINKL PHILIPS ELECTRONICS NV) 6 February 2003 (2003-02-06) abstract	1
P,X	WO 02 23215 A (MOTOROLA INC) 21 March 2002 (2002-03-21) Disclosure of the Invention	1,2,4

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Information on patent family members

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